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Entrepreneurial Environmental Challenges to Be Addressed on the Journey to Becoming an ‘Entrepreneurial University’: A Case Study of the University of Duhok, Kurdistan.

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Abstract

Universities have been challenged to behave more entrepreneurially and there is an extant literature on what constitutes an entrepreneurial university. The environment in which universities exist and interact with stakeholders has become more turbulent whilst governmental and societal expectations have become more demanding. In the UK the work of Gibb, Haskins and Robertson and the NCGE have provided analytical frameworks and encouraged debate. This paper considers the University of Duhok, Kurdistan which is in the early stages of their entrepreneurial journey. Twenty-two Deans and Heads of Department were interviewed and firstly asked what is meant by being entrepreneurial and hence being an entrepreneurial university. Secondly, the Gibb et al. (2013) eleven entrepreneurial environmental challenges were discussed. This paper provides an analysis of their responses. Given that entrepreneurial behaviour can come from both established players and young disruptors, there are interesting comparative lessons to be drawn for universities in both developed and less developed economies.

Keywords: entrepreneurship, entrepreneurial university, entrepreneurial environmental challenges.

Introduction

Universities have faced, and continue to face, turbulent times with particular respect to discharging their responsibilities towards the expectations of their stakeholders and the changed business model under which they now operate. Layered on top of this is the notion that they should not only behave entrepreneurially but should signal that behaviour to their stakeholders and the wider community. This is made more complicated by the fact that there is no single overarching definition of what is an entrepreneur, and, that it is reasonable to argue that entrepreneurial endeavour is not an absolute but a continuum of behaviour ranging from Kirznerian (Kirzner, 1973) market adjustment to Schumpeterian waves of creative destruction (Schumpeter, 1943). Previously, academic entrepreneurship has been strongly aligned with technical innovation; commercialisation of invention; joint ventures between universities and private companies; and the development of incubators. Now we also have an internal focus concerned with enabling students to become more entrepreneurial, and, an interest in senior university managers and leaders acting entrepreneurially both in their strategy setting and the execution of that strategy.

This paper focuses on a University that is at an earlier stage of the entrepreneurial journey than those who have sought to signal their entrepreneurial skills through the Times Higher Entrepreneurial University of the Year Award. It adopts a framework by Gibb et al. (2013) that is both seminal and has influenced thinking and direction within the NCGE through their working paper series.

This paper raises the following two questions:

Is there a consensus by Deans and Heads of Departmental at the UoD on the definitions of entrepreneurship and the entrepreneurial university?

What are the most significant entrepreneurial environmental challenges that motivate UoD to become an entrepreneurial university?

It is structured as follows. Firstly, the literature is reviewed. Secondly, the research methodology is discussed. Thirdly, results are presented. Fourthly, these results are discussed. Then practical implications and limitations and future research direction are considered. Finally, conclusions are drawn.

Literature Review

Universities are encircled by a complex environment exhibiting high levels of uncertainty that may well both encourage and enable them to think seriously of being entrepreneurial and proactive in exploiting opportunities. Furthermore, individuals with entrepreneurial tendencies may well behave entrepreneurially (Pinchot 1985, Baruah and Ward, 2015) and so drive entrepreneurial behaviour internally. Thus, universities have been challenged to behave entrepreneurially; Etzkowitz (2013) arguing that the ‘entrepreneurial university’ has emerged as a result of the second academic revolution and the third mission of the universities, which has called universities to contribute directly to social and economic development rather than being more insular academic institutions. Likewise, Sam and van der Sijde (2014) state that universities are expected to create strong relationships with stakeholders in order to generate and evolve (new) knowledge and technology, as well as, to enhance their status in the ‘knowledge-based society’ in order to produce another source of revenue. Todorovic et al. (2011) argue that universities have been challenged to become more entrepreneurial by governments, funding organizations and industry.

In fact, there are multiple challenges that push the universities to become entrepreneurial. Examples of these challenges are: preserving research capabilities; providing life-long learning and creating a community which can maintain and develop crucial knowledge alongside social principals and ethics (Guerrero et al., 2014); responding to the government’s demands regarding the solutions for economic and unemployment issues; providing the highly-skilled graduates sought after by employers; looking at the university as an essential entity for innovations; and the demand from students and their families to obtain effective courses to meet the needs of employers (Hannon, 2013).

Gibb et al. (2013) divide the challenges that motivate the universities to become entrepreneurial into two groups; the first group focuses on eleven entrepreneurial environmental challenges: the massification of higher education; the employability agenda; the student voice; developing entrepreneurial skills; the challenge of globalization; the internationalization strategies of universities; the global knowledge configuration; knowledge transfer and engagement process; regional and local engagement; university funding; enterprise, autonomy and academic freedom; and, creating public value¹. The second group deals with entrepreneurial organizational challenges.

This study considers only the entrepreneurial environmental challenges of Gibb et al. (2013). This is due to two reasons; firstly the authors wanted to focus on one part of the entrepreneurial challenges facing universities in order to obtain a deep understanding. Secondly there is a well-structured set of competencies outlined by Gibb et al. (2013) and entrepreneurial these environmental challenges would be the gateway to further research concerning organisational and leadership challenges. Whilst presented as eleven separate components, in a complex environment they will interact and Figure One below is an attempt to map the discussion by Gibb et al. (2013) as a diagram.

¹ The authors use the exact words that used by Gibb et al. (2013) for the entrepreneurial environmental challenges.

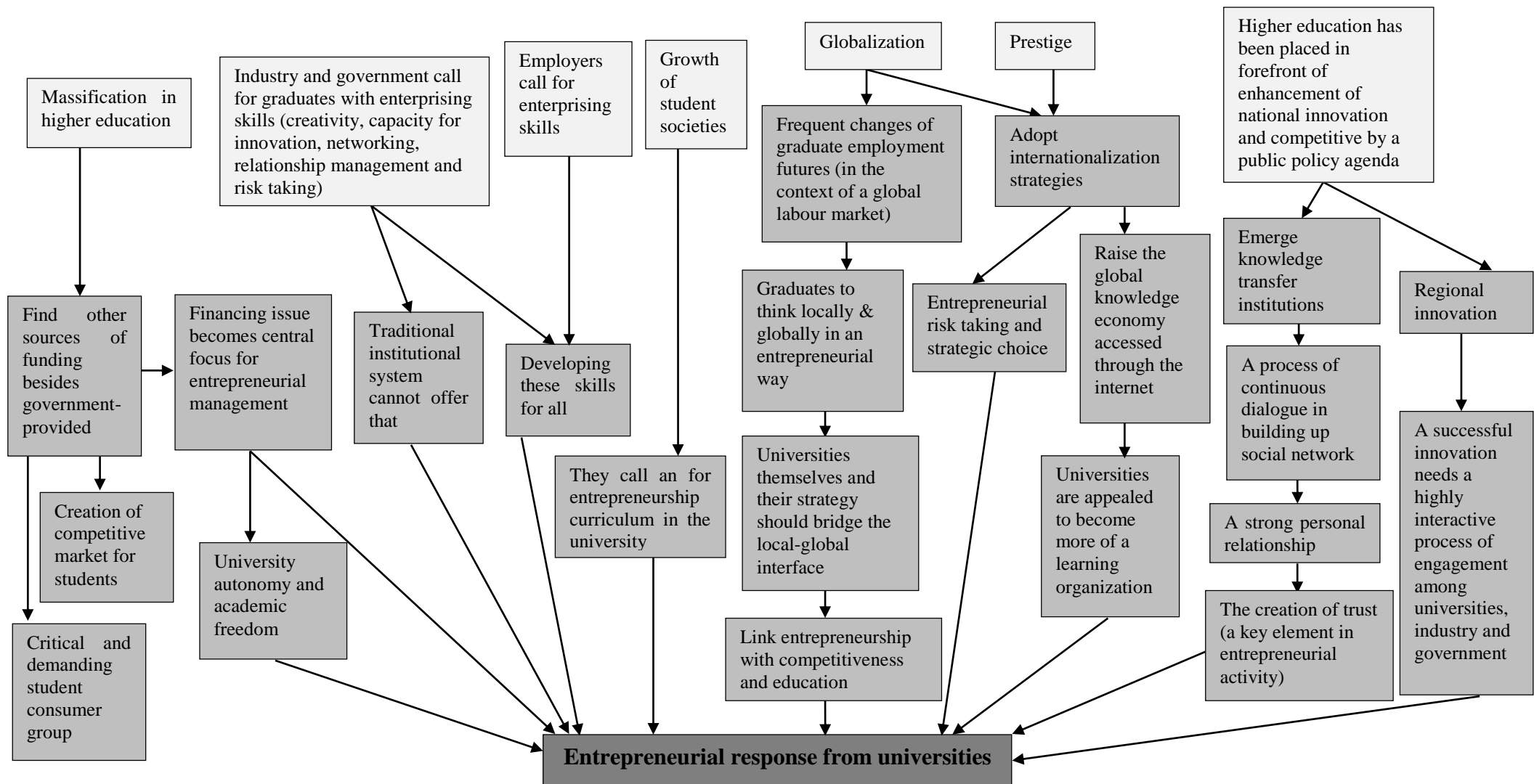


Figure One: The Overlap amongst the Entrepreneurial Environmental Challenges

Source: The authors drawing on Gibb et al. (2013)

Methodology

Sample description

Sam and van der Sijde (2014) point out that there is a need for conducting more studies on entrepreneurial university in the developing countries context because there have not been sufficient studies that highlight the role of entrepreneurial universities in this context. The above suggestion adds an importance to the present study as it is conducted in Kurdistan Region in Iraq, which is considered as one of the developing countries. Accordingly, UoD had been chosen as a population for the current study.

Twenty- two middle managers, either Deans or Heads of Departments were selected as the sample, all were at least doctoral degree holders and aged between 35-55 years. Middle managers (below the level of vice chancellor etc.) were chosen because of their important role, evaluating and promoting entrepreneurial initiatives, in entrepreneurial process (Ren and Guo, 2011).

Data collection

A qualitative approach was approach was adopted to conduct the current case study. To implement the case study strategy, two methods, as mentioned earlier, were used. The first method was semi-structured face to face in-depth interviews, which were conduct through two phases. In phase one the interviewees were asked to choose two definitions - one for Entrepreneurship and one for the Entrepreneurial University. The definitions offered were chosen because they are commonly used by researchers in the fields of entrepreneurship and the entrepreneurial university. Five entrepreneurial definitions and five entrepreneurial university definitions were offered. The authors were seeking to draw some 'baseline' of participant's understanding of entrepreneurship and the entrepreneurial university. Then, in phase two, the interviewees were interviewed about the challenges that lead the UoD to become more entrepreneurial. The view of Gibb et al. (2013) was adopted to develop the questions of the above phase. Using such a theoretical underpinning helps the authors to establish external validity (Yin, 2014).

All of the interviews were recorded except for one where the researcher was requested just to take notes. The interview schedule was drafted in English and then translated into Arabic by one of the authors of the current study. The main reason for conducting interviews in Arabic is that all the interviewees are fluent in this language.

The second method was website content, thus, the UoD website was reviewed in respect of the aforementioned challenges. Using more than one method for collecting the data helps the authors to establish construct validity (Yin, 2014).

Data analysis

The data obtained from the interviews and the website content were coded by following the techniques of template analysis approach. The latter focuses on a group of heretical codes which outline themes considered by researchers as substantial in a set of textual data (King, 2012, King and Brooks, 2016, Brooks et al., 2015). Developing the template for thematically analysing the data of the present paper went through two stages: producing the initial template and establishing the final template. The initial template was structured using the eleven challenges identified by Gibb et al. (2013). The initial codes were modified as a result of additional reading of the transcripts. This, in return, results in establishing the final version template which includes more specific categories (as it is shown in Figure Two). Such a template eased the process of the interpretation and writing up the findings of the present study.

Entrepreneurial Environmental Challenges that face the UoD

- 1. Funding issues**
 - 1.1. Autonomy**
 - 1.2. Academic freedom**
 - 1.2.1. Transparency
 - 1.2.2. Responding to inquiries
 - 1.3. Lack of resources**
 - 1.4. Generating new knowledge**
 - 1.5. Increase the number of students**
 - 1.5.1. Increase the population
 - 1.5.2. Free education
 - 1.5.3. Society encourages education
 - 1.6. Increase demand on scholarships**
 - 1.7. New academic departments**
 - 1.8. Performance improvement**
- 2. Collaboration**
 - 2.1. Collaboration with industry**
 - 2.1.1. Collaboration between university research hubs and industry**
 - 2.1.2. Solutions for industry issues**
 - 2.1.3. Conducting real world research**
 - 2.2. Collaboration with government**
 - 2.2.1. Conducting research relating to government issues**
 - 2.2.2. Collaboration between the university research hubs and government departments and ministries.**
 - 2.3. Collaboration with other universities**
 - 2.3.1. Collaboration with international universities**
 - 2.3.1.1. Joint certificate**
 - 2.3.1.2. Joint curriculum / modules**
 - 2.3.1.3. International relations**
 - 2.3.1.4. Joint bachelor degree**
 - 2.3.1.5. Joint supervision**
 - 2.3.2. Collaboration with local universities**
- 3. Contribute to region development**
 - 3.1. Society development**
 - 3.1.1. Conducting research relating to society issues**
 - 3.1.2. Meeting the expectations of employers**
 - 3.1.3. Strong link between the university and society**
 - 3.1.4. The welfare of society**
 - 3.1.5. Producing innovative graduates**
 - 3.1.6. The need for society service centres**
 - 3.1.7. Employability issues**
 - 3.2. Regional economic development**
 - 3.2.1. Creating new ventures**
 - 3.2.2. Producing job creators**
 - 3.2.3. Producing entrepreneurs**
- 4. Developing entrepreneurial competencies**
 - 4.1. Need for entrepreneurship training programmes**
 - 4.1.1. Need for leadership trainings**
 - 4.1.2. Developing self-efficacy competencies**
 - 4.1.3. Developing innovative skills**
 - 4.2. Need for entrepreneurship education**
 - 4.2.1. Embedding entrepreneurship module in the curriculum**
 - 4.2.2. The increase of the number of thesis addressing entrepreneurship issues**
- 5. Globalization challenges**
 - 5.1. The development of information and communication technology**
 - 5.2. Responding to changes in the global environment**
- 6. Need for innovation**
- 7. Emergence of the opposition forces**

Figure Two: final version template.

Results

Definition the Entrepreneurship

The definition of Bolton and Thompson (2004) of the entrepreneur and the definition of Gibb (2012) of entrepreneurship obtained the attention of six of interviewees for each definition. Bolton and Thompson (2004) describe the entrepreneur as “a person who habitually creates and innovates to build something of recognized value around perceived opportunities” (P.16). Whilst, Gibb (2012) looks at entrepreneurship as a concept that concentrates on applying personal enterprising skills, characteristics, theories and ways of thinking “to the setting up a new venture, developing/growing an existing venture and designing an entrepreneurial organisation”. (Gibb, 2012).

The perspective of Shane and Venkataraman (2000), which characterises the entrepreneurship as the area that examines the source of, recognition, appraisal and exploitation the opportunities as well as examines the group of persons who recognise, appraise and exploit the opportunities, was chosen by Five of interviewees. Concurrently, four interviewees chose the definition of Drucker (1985) which describes the entrepreneurship as “the act of innovation involving endowing existing resources with new wealth-producing capacity”. Only one interviewee opted for the definition of Hitt et al. (2001) which describes entrepreneurship as “the identification and exploitation of previously unexploited opportunities” (p. 480).

The above results show that there is no particular agreement on the definition of entrepreneurship by participants of the current study.

Definition the Entrepreneurial University

Again participants were asked to choose their preferred definition. Nine interviewees did choose Clark’s definition as commensurate with their concept of an entrepreneurial university. “(the) Entrepreneurial university, on its own, seeks to innovate in how it goes to business. It seeks to work out a substantial shift in organizational character so as to arrive at a more promising posture for the future. Entrepreneurial universities seek to become stand-up universities that are significant actors in their own terms.” (Clark, 1998)

The definition of Zhou and Peng (2008) which describes the entrepreneurial university as “the university that strongly influences the regional development of industries as well as economic growth through high-tech entrepreneurship based on strong research, technology transfer and entrepreneurship capability” was selected by five interviewees (p. 638).

Four interviewees selected Kirby’s (2002) perspective which shows that “as at the heart of any entrepreneurial culture, Entrepreneurial Universities have the ability to innovate, recognize and create opportunities, work in teams, take risks and respond to challenges”.

The view of Sam and van der Sijde (2014) which describes the entrepreneurial university as a university that has ability to involve itself in various roles in community and the ‘innovation (eco) system’ was chosen by three interviewees.

The definition of Etzkowitz (2013) was elected by only one interviewee. This definition describes the entrepreneurial university as “an emergent phenomenon resulting from the working out of an ‘inner logic’ of academic development that previously expanded the academic enterprise from a conservator to an originator of knowledge” (p. 487).

The above results show that there is also no consensus view on the definition of the entrepreneurial university.

The entrepreneurial environmental challenges for the Universities

1. Funding issues

Analysis of the present study’s data showed that ‘funding issues’ is the biggest entrepreneurial environmental challenge that leads the UoD to think seriously of becoming an entrepreneurial

university. One of the respondents mentioned that one of the greatest weaknesses of the UoD is that its complete dependence on the government funding; therefore, according to twelve of the respondents, UoD must find other sources of funding to fund part of its expenditures. The answers of the respondents showed that the funding issues in the UoD have raised due to a group of reasons, as follows:

a. Increase in the number of students:

The massification of higher education is one of the serious challenges faced by the Government of Kurdistan in general and the Kurdish universities, including the UoD, in particular. In fact, it is expected, according to two respondents, that the number of students at the UoD will increase more in the coming years.

b. Plans to add new academic departments

As a result of the increase in the number of students at UoD, plans to open new departments have been set. However, financial and academic potential may not allow the UoD to put into action because additional funds will be needed to cover the cost of new human resources and other resources required.

c. Increase in demand on scholarships

The increase in the number of UoD students also leads to increasing in the demand for obtaining scholarships to study abroad. A considerable number of Kurdish universities' students, including UoD's students, have been sent to study abroad. This is seen by some respondents as a burden on the region government. This burden, in return, has caused reducing the financial allocations for the different activities of Kurdish universities.

d. Performance improvement

Six respondents have mentioned that Kurdish universities are demanded to achieving high performance levels; however, the financial allocations by the government are not enough to cover the additional expenses of the activities that may contribute to the performance improvement. Moreover, according to a group of respondents, the performance of the Kurdish universities is impacted by unstable economic and political situations of Kurdistan Region. Such an instability may make the performance of these universities somewhat unpredictable. The above respondents mentioned that find other sources of funding may help UoD to cope with such issues.

e. The desire for autonomy:

The above reasons as well as the desire to have autonomy in making their own decisions have encouraged some senior managers in the UoD to make this university more independent. According to three respondents, the biggest obstacles to the adoption of self-financing by the UoD are:

- Unwillingness of those who manage the university to establish a strained relationship with the regional government
- Prevailing mentality in Kurdish society that universities are the institutions that must be run by the government.

f. Academic freedom

The answers of a number of interviewees showed that enjoying more academic freedom is another motivation for the UoD to become more entrepreneurial and independent university. Although a group of the interviewees believed that the members of the UoD have the right to freely speak and enquire as well as to criticise when it is necessary; four respondents believed that this freedom could be stronger and more real. Moreover, some of those interviewees

believed that what exists in the UoD is a ‘fake freedom’ because there are still a number of issues that the UoD’s members are not allowed to discuss.

g. Lack of resources

Eight respondents considered the inefficient use of resources by the UoD as one of the reasons for facing funding issues. This may require adopting a new mode for managing resources; one option could be the entrepreneurial university mode. In terms of the UoD resources, a group of respondents mentioned that the UoD certainly needs to manage its available recourse effectively to find good sources of funding.

h. Generating new knowledge

UoD, like other Kurdish universities, is demanded to generate new knowledge. The latter certainly requires financial recourses, which are not available in abundance at the moment.

It is worth mentioning that the answers of some respondents showed that overcoming the UoD’s funding issues does not only need obtaining financial resources or making profits in the short terms, but rather, creating value for the university and the society. Therefore, UoD needs to evaluate its public value constantly. In accordance with the above results, the review of the UoD website shows that UoD seeks to creating value for the public by providing the necessary expertise and consultations and thus contributing to the Kurdistan Region development as well as creating a good reputation to the university.

2. Developing entrepreneurial competencies

A good number of the respondents believed that there is a need for developing entrepreneurial competencies. In fact, they believe that such competencies can easily developed by adopting entrepreneurial university mode. The answers of the respondents showed that there is a need for developing entrepreneurial competencies for both the members and students of UoD, as follows:

a. Need for entrepreneurship education

Ten respondents believed that one of the main motivations for the UoD to adopt the entrepreneurial university mode is that the real need for entrepreneurship education. Those respondents believed that embedding entrepreneurship modules in the curriculum should be a priority of all schools in the UoD. They also believed that spread the entrepreneurial culture into the UoD through entrepreneurship education will help in finding good solutions for the employment issues. However, two of the respondents pointed out that it is not possible to generalise entrepreneurship module across all UoD schools because, in their opinion, the concepts that can be explained by this module are related to financial, managerial and economic aspects which are usually dealt with in the School of Administration and Economics.

In the line with the above result, analysing the UoD website shows that one of the UoD’s objectives is to provide the required courses, training programmes and incubators that can encourage and facilitate the engagement of graduates in the private sector.

b. Need for entrepreneurship training programmes

Ten respondents pointed out that the UoD provides a significant number of training programmes that assist in developing the skills and competencies of the UoD’s. However, these programmes do not significantly deal with entrepreneurial issues. Therefore, four of the respondents mentioned that the members of the UoD, especially the administrator leaders (senior level), need to be involved with entrepreneurial programmes that would assist in the adoption of an entrepreneurial culture and thus the transition to an entrepreneurial university. With the respect to the types of training programmes required, the answers of the respondents were centred on three areas: leadership, self-efficacy and innovative skills.

3. Globalization challenges

Globalization challenges also received considerable attention by the respondents, who believed that one of the main reasons that pushes the UoD to adopt new frameworks and modes, including entrepreneurial university mode, is coping high-prestige international universities. Recognizing those frameworks and modes has become easy in the era of the globalization through the internet and advanced information technology.

In this connection, four respondents pointed out that the information and communication technology has made the concept of the entrepreneurial university a familiar concept at the UoD. This is important for the UoD because, according to two of the respondents, the essential stage for moving towards an entrepreneurial university is that to be familiar with the available experiences and models of the entrepreneurial universities, which may exist in other countries. In fact, globalization helps, according to one of the respondents, to spread the entrepreneurial culture within the UoD. In addition, it assists to shed the light on the opportunities that can be detected as a result of access to the experiences of others.

One of the above opportunities, according to some respondents, is to become a learning organization. In this context, according to six respondents, the UoD's members have been encouraged to make the university a learning organization.

In accordance with the above results, analysis of the UoD website reveals that this university has revised its curriculum constantly in order to meet globally changing requirements. In addition, as a result of globalization, the UoD's vision pushes the members of this university to make their university a "world class university". UoD's website content also showed that the university have made considerable efforts to be a learning organization. Examples of these efforts are local and international conferences, international agreements and continuous training programmes as well as allocating the necessary funds for R & D.

4. Collaboration

The answers of the respondents showed that the UoD is encouraged to have three types of collaborations, which, according to the answers of some respondents, can be enhanced by adopting the entrepreneurial university mode. These types are as follows:

a. Collaboration with industry

The respondents who discussed this challenge believed that a strong collaboration with industry is essential to improve the performance of the UoD. The respondents also believed that although the interaction between the UoD and the industry, often through the consulting offices, is exist, this interaction is still below the required level. Therefore, the UoD needs to enhance this interaction because the strong link between the university and industry may reflect on the creation of new employment opportunities and the establishment of new

In line with the above results, reviewing the UoD website indicates that there is an interaction between the UoD and industry in Kurdistan; however, this interaction is purely a consultant-based role and does not extend to, for example, joint projects.

b. Collaboration with other universities

Analysis of the respondents' answers showed that the UoD is encouraged to have collaboration not only with Kurdish universities but also with universities from different countries. In this regard, the Ministry of Higher Education in Kurdistan Region, according to two of the respondents, has encouraged Kurdistan universities, including the UoD, to pay great attention to collaborating with universities in developed countries. As a consequence, there is a significant cooperation, according to eight of the respondents, between the Kurdish universities and universities of other countries. Over and above that, one of these respondents claimed that in this respect, the UoD is the most cooperative university in Kurdistan. In this connection, according to six of the respondents, this cooperation takes the following forms: joint research; exchange students; joint bachelor degrees; joint supervisions through split-site programmes;

sending students abroad to do their master/PhD degrees; sending lecturers to attend to the courses that are provided by the aforementioned universities; and, contracting with some of the lecturers of the universities the aforementioned universities.

By analysing the UoD website content, it can be claimed that this university has made a significant efforts to set a strong strategy for strengthen relationships with universities in other countries. These efforts can be seen in international activities of the UoD; for example, promoting international student exchanges, establishing strong relationships with top universities and being a member of many international associations.

c. Collaboration with government

Although most of respondents looked to the relationship between the university and the government as a one-way relationship which centred on obtaining funding and support from the government; few respondents touched upon the need for a two-way relationship through having collaboration with the government. Such a collaboration could take many forms, including the following:

- Collaboration between the university research hubs and government departments and ministries.
- Finding solutions for different issues facing the region government

Few respondents went further, they believe that the success of the collaboration strategy highly depends on build a triangular relationship between the university, government and industry. Those respondents believed that having such a relation could highly contribute to create highest levels of value.

5. Contribute to region development

Regional engagement have been seen by seven interviewees as a one of the catalysts pushes the UoD to behave entrepreneurially. In this regard, eight respondents pointed out that the UoD has been encouraged to contribute to the development of the Kurdistan Region. The latter can be achieved through focusing on two areas; society development and economic development.

a. Society development

UoD is seen, by Duhok Society, as an intellectual and scientific centre. At the same time, it considers the university as a place where people can receive a degree that will enable them to find jobs after graduation. Therefore, it looks forward to obtaining graduates with high intellectual capabilities and technical skills to contribute in the society development. However, one of the respondents pointed out that the UoD is not living up to what is expected from it by the Duhok society. This may be because that the UoD is still a young university.

Analysis of the respondents' answers showed that adopting the entrepreneurial university can help the UoD in contributing to the development of the Kurdish society through the following:

- Meet the society needs and expectations
- Meet the expectations of employers
- University is demanded to find jobs for its graduates.
- Produce innovative graduates
- Provide society service centres
- Support students after graduation, especially in finding jobs.

In the connection with latter, reviewing the UoD website shows that UoD has started to support its students after graduation through the CDC that finds jobs for the UoD's graduates in both private and public sectors.

b. Economic development

Although the main focus of interviewees was on society development, few of them believed that the UoD is called to contributing to the region economic development, which can be done through:

- Creating new ventures
- Encouraging students to be entrepreneurs and job creator

6. Need for innovation

Few interviewees believed that UoD is called for more innovations. Those interviewees believed that innovations could help the UoD in many ways, including finding other sources for finding and gaining a good reputation. Some of those interviewees thought that there is a number of obstacles to innovation in the UoD including the lack of resources required for innovation, as well as, the culture of the UoD does not pay much attention to creativity and innovation.

7. Emergence of the opposition forces

According to the answers from the interview questions, it can be claimed that there is another challenge that pushes the UoD to become more entrepreneurial which is the emergence of the opposition forces in Kurdistan. This challenge is related to the political opposition from inside Kurdistan and is not included in the Gibb et al. (2013) model. In this context, three of the respondents pointed out that the emergence of the opposition forces to the Kurdistan government has contributed to the development of many aspects in the region, including the universities. Accordingly, the government of this region have tried to meet the demands of the social welfare requirements in order to maintain political stability. For the above discussion, the UoD has been motivated to constantly develop itself and to adapt to the surrounding and changing environment.

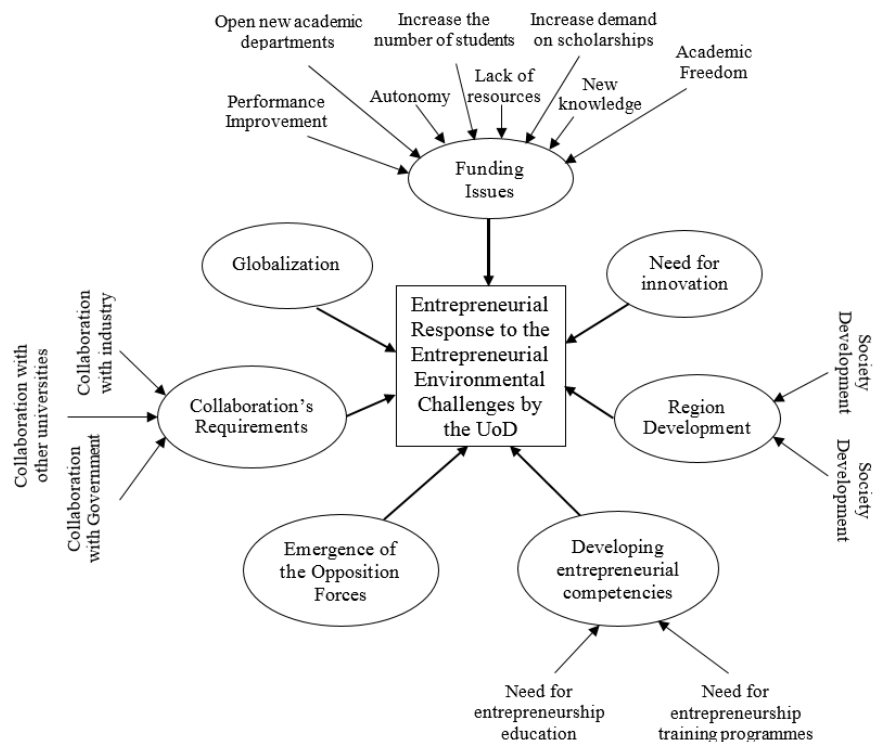


Figure Three: Entrepreneurial responses to the environmental challenges addressed by the UoD

Discussion

The results section shows that there is a weak agreement among the respondents on the definition of entrepreneurship. This could be due to two reasons; first, this concept is studied in many fields, such as business, economic, engineering and arts. Second, there is lack of agreement on the concept among entrepreneurship scholars themselves. The results also shows that there is not a strong agreement among the respondents on the concept of the entrepreneurial university. The reasons for this may be the same reasons that already have been mentioned with regard to the lack of a single definition for entrepreneurship. The result relating to the lack of a significant agreement on the definition of the entrepreneurial university is consistent with the work of Kirby et al. (2011) that refers to the lack of unanimity regarding the entrepreneurial university definition. In their study the Kirby's (2002) view was the most acceptable definition of the entrepreneurial university; however, in the present study, the respondents chose Clark's (1998) definition as the most obvious definition for the entrepreneurial university phenomenon. With regards to the entrepreneurial environmental challenges, conducting this paper helps in revealing a number of these challenges. The biggest challenge is related to the funding issues. This is in line with Dainora and Razvan (2009) who point out that the lack of the funds has led a significant number of universities to move towards being an entrepreneurial university with a view to obtaining additional funds from industry. However, moving toward the entrepreneurial university will need significant effort from the UoD, due to being subject to the intervention by the Kurdistan government. In this respect, Zhou and Peng (2008) argue that intense interference in the affairs of the university by the government leads a university to have an unclear entrepreneurial orientation.

UoD is also challenged to embed entrepreneurship modules in the curricula of all the UoD's Schools as well as providing entrepreneurship training programmes for the UoD's member, especially for the senior staff. The School of Administration and Economics already has provided some courses that deal with the entrepreneurship concept, as well as, conduct research and dissertations that take into account the entrepreneurial issues. Master and doctorate courses might have a significant role in coaching entrepreneurs. The above discussion shows the increasing need to embrace an entrepreneurial university mode to affirm a commitment to the development of students and employees and assure that the notion of 'entrepreneurship education' is listed in the curriculum of all schools of the university (Gibb, 2009).

In terms of globalization as a challenge, it can be said that it significantly impacts on different aspects of universities; one of these aspects is to push them to become learning organizations. In fact, transforming to an entrepreneurial university will assist the university in that due to the fact that the entrepreneurial university involves itself effectively in the more extensive 'stakeholder community', and this sort of involvement is considered as one of the requirements of an 'organisational learning strategy' (Gibb, 2009). According to the respondents' answers; the main source for the UoD to become a learning organization is its relations with international universities. In fact, it is important for the university to pay attention to international considerations because that could help in obtaining "internationally oriented staff/students and improved academic quality" (Knight, 2007).

The result of this paper showed that the need for collaboration is considered as one of the challenges that push universities to become more entrepreneurial. According to Zhou and Peng (2008), interacting with industry is one of the necessary conditions of adopting the entrepreneurial university model. One of the results of the industry and university interaction is providing academic outcomes, for instance, publications and dissertations, which in turn generate novel knowledge (Garcia et al., 2014). In fact, collaboration with industry is not enough, but rather, there is a need for collaboration with other universities and the government. Having such collaborations support the importance of adopting the Triple Helix of University

-Industry -Government model (Etzkowitz and Leydesdorff, 1995). This model can easily facilitate the transition process towards the entrepreneurial university; and thus effectively responding to the entrepreneurial environmental challenges.

A number of the respondents believed that development of the Kurdistan Region is one of duties that UoD is encouraged to carry out. Accordingly, it might be important for the UoD to adopt the entrepreneurial university model because entrepreneurial universities have a strong impact on the development of the regions (Etzkowitz, 2013, Zhou and Peng, 2008, Guerrero et al., 2015). Moreover, the entrepreneurial university, according to Gibb (2009) “accepts wider responsibility for the personal development of students and staff, particularly with respect to future social, career and lifelong learning experiences”. This is because the universities are seen as an essential entity to prepare those highly skilled individuals who are desirable in the new knowledge-based economies (Welch, 2011). This may assist in meeting the expectations of Duhok society that the UoD supply graduates with high intellectual capabilities and technical skills that can contribute to the development of this society.

Few respondents reported that it is not easy for the graduates to gain jobs in the Kurdistan Region. This is in line with Shatz et al. (2014) who argued that sometime is difficult to the graduates in Kurdistan Region, including Duhok Governorate, to obtain jobs. The authors believe that this issue can be addressed partly when graduates will be able to create their own ventures as these ventures can develop the private sector as well as decrease the level of unemployment. Anthony et al. (2012) argue that entrepreneurship at the local level and establishing new businesses is one of the strategies that could be used for developing the private sector. In any case, it seems that there is an increasing need for the UoD to embrace the entrepreneurial university concept because, as mentioned earlier, the entrepreneurial university assures that the notion of ‘entrepreneurship education’ should be listed in the curricula of all schools in the university (Gibb, 2009).

The need for innovations has been considered by some respondents as another reason for adopting the entrepreneurial university mode. This assumption can supported by the arguments of a number of entrepreneurship scholars who believe that innovation is one of the main dimensions of the entrepreneurial universities (Kirby et al., 2011, Clark, 1998, Sam and van der Sijde, 2014). In fact, it has also been argued that one of the characteristics of entrepreneurial universities is that its knowledge is spread into them through innovation (Zhou and Peng, 2008).

The answer of the respondents revealed that the existence of opposition forces has a positive impact on the Kurdistan Region because they have pushed the government to improve many aspects, including the universities, in the region. This is in the line with what has been argued by (Holzhacker, 2005) that the active voice of opposition forces can help in improving governmental performance. In fact, support and encouragement from government can highly motivate the universities’ member to contribute in achieving effective performance. This benefits both the university, which can provide high quality services, and the government, which can gain the society satisfaction and thus facing the opposition forces.

Conclusion

Conducting the present paper shows that there is no strong agreement on a singular definition of entrepreneurship and the entrepreneurial university, either by researchers in the field or by respondents. Nevertheless, a university can adopt a definition that aligns with their purpose and culture when it is ready to shift towards an entrepreneurial university. There are many reasons behind such a move, some of these are related to external environment forces and some to the behaviour of entrepreneurs within the universities. This study deals with entrepreneurial environmental challenges that face the UoD. In this connection, the results show that the most significant entrepreneurial environmental challenges that push this university to becoming an

entrepreneurial university are funding issues, need for developing entrepreneurial competencies, globalization challenges, need for collaborations, contribute to region development, need for innovation and emergence of the opposition forces.

The findings of this study could have significant implications for universities that are interested in behaving entrepreneurially, particularly in developing countries, since the UoD, is located in the Kurdistan region - Iraq, which is considered as one of the developing countries. The findings could also help leaders and staff in universities as well as other key stakeholders and the government in gaining more understanding about entrepreneurialism in the universities context. Furthermore, these results may assist policymakers to set appropriate policies and so pave the way for the universities to become entrepreneurial universities.

The present study has two limitations; first, it only examines entrepreneurial environmental challenges that have been identified by Gibb et al. (2013). For future studies, researchers could consider those other challenges, which have been identified by other scholars. For example, the model of entrepreneurial university of Singer and Peterka (2010) could be used for this purpose. Second, the present study could have been conducted at other universities in Kurdistan Region in order to find out whether these universities are facing the same challenges. It might be appropriate at that point to consider developing a quantitative research approach.

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